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**RESPONSE AFTER FINAL  
EXPEDITED PROCEDURE REQUESTED  
EXAMINING GROUP ART UNIT 3745  
PATENT**

Customer No. 22,852  
Attorney Docket No. 08350.0663-00000

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
Kazunori YOSHINO	)	Group Art Unit: 3745
	)	
Application No.: 10/029,290	)	Examiner: Frank D. Lopez
	)	
Filed: December 28, 2001	)	Confirmation No.: 3082
	)	
For: HYDRAULIC CONTROL SYSTEM	)	
FOR REDUCING MOTOR	)	
CAVITATION	)	

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Commissioner for Patents  
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TECHNOLOGY CENTER R3700

Sir:

**REQUEST FOR RECONSIDERATION**

In response to the final Office Action mailed April 6, 2004, the period for response having been extended one month by Petition for a one-month extension of time and fee payment filed concurrently herewith, Applicant respectfully requests that the Examiner reconsider the present application and withdraw the claim rejections for the reasons explained in detail below.

In the final Office Action, claims 1, 4, 15, and 16 were rejected under 35 U.S.C. § 103(a) based on Yoshimatsu (U.S. Patent No. 5,063,742) (hereinafter "Yoshimatsu '742") combined with Norick (U.S. Patent No. 4,067,193) (hereinafter "Norick") and Yoshimatsu (U.S. Patent No. 5,062,266) (hereinafter "Yoshimatsu '266").

Claims 1 and 15 are the only independent claims rejected under § 103(a) based those references.

Applicant respectfully traverses the § 103(a) rejection of independent claims 1 and 15 because the final Office Action fails to establish a case of *prima facie* obviousness, as will be explained in more detail below.

The rejection statement asserts that the Yoshimatsu '742 reference discloses, among other things, "a fluid control system and method of operating comprising . . . a dedicated flow line configured to provide make up fluid to the motor at a location between the motor and the back pressure element . . . ." Id. The rejection statement concedes, however, that the Yoshimatsu '742 reference does not disclose "a pilot pump provid[ing] fluid across a pilot relief valve . . . and to the motor return line . . . ." Id. The final Office Action nevertheless asserts that the Norick reference discloses "a pilot pump (35) provid[ing] fluid across a pilot relief valve . . . to control displacement of the pressure source, thereby increasing efficiency, with the purpose of the pilot relief valve to protect against over-pressurization of the system . . . ." Id. at 3. The rejection statement thereafter concludes that "[i]t would have been obvious . . . to include a pilot pump to provide fluid across a pilot relief valve and to the motor return line of Yoshimatsu (5,063,742) . . . to control displacement of the pressure source, thereby increasing efficiency, with the purpose of the pilot relief valve to protect against overpressurization of the system." Id.

Applicant respectfully traverses the rejection because the final Office Action has failed to establish a *prima facie* case of obviousness since there is no legally proper

suggestion or motivation to combine the Yoshimatsu '742 and Norick reference teachings in the rejection statement's proposed hypothetical manner.

According to the guidance of the M.P.E.P., "[t]o establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." M.P.E.P. § 2143. The M.P.E.P. further advises that "[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant's disclosure. Id. (citation omitted). "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." § 2143.01 (citation omitted). Furthermore, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Id. (citation omitted).

Because the final Office Action's proposed hypothetical modification to the Yoshimatsu '742 reference's system would change its principle of operation, the final Office Action's proposed hypothetical modification is not *prima facie* obvious. The Yoshimatsu '742 reference discloses a hydraulic control system for controlling the slewing motion of a slewing mechanism for slewing a revolving superstructure of, for example, a backhoe, that includes a hydraulic pump 1, a swing mode selector valve 2 fluidly connected to the hydraulic pump 1, and a hydraulic motor 3 for driving the slewing mechanism. Yoshimatsu '742 further discloses two supply-and-discharge lines 31a and 31b, each of which is connected between the swing mode selector

valve 2 and a respective port of the hydraulic motor 3 for selectively supplying pressurized fluid to a supply side port 3a of the hydraulic motor 3 when the system is in a driving operating mode. Yoshimatsu '742 also discloses a main relief valve 12 common to both of the supply-and-discharge lines 31a and 31b, wherein a pair of relief valves 4a and 4b capable of being set for a high set relief pressure higher than the set relief pressure of the main relief valve 12 and for a low set relief pressure lower than the set relief pressure of the main relief valve 12 are provided in respective ones of the supply-and-discharge lines 31a and 31b connected to the supply-and-discharge ports 3a and 3b of the hydraulic motor 3. In Yoshimatsu '742, an operating mode detecting means detects the operating mode of the hydraulic motor 3, and a set relief pressure changing means sets the relief valve 4a associated with the supply side of the hydraulic motor 3 for the high set relief pressure in response to a detection signal provided by the operating mode detecting means only while the hydraulic motor 3 is operating in a driving mode, and maintains the respective relief pressures of the relief valves at the low set relief pressure while the hydraulic motor 3 is operating in a mode other than the driving mode.

The Yoshimatsu '724 reference, as conceded in the rejection statement however, does not disclose a pilot pump and a pilot relief valve disposed at a second flow line and configured to provide fluid communication between the pilot pump and the motor return flow line in parallel with a first flow line, as recited in Applicant's independent claim 1.

The Norick reference, on the other hand, discloses a combined hydrostatic transmission and implement system having a plurality of hydraulic motors 10, 11,

and 12, including a rotary hydraulic motor 12 and a variable displacement pump 14, which is provided with throttling means operative with directional control valves 16, 17, and 18 for controlling the displacement of the variable displacement pump 14 in response to the direction of hydraulic fluid to the respective control or hydraulic motors. The variable displacement pump 14 is driven by suitable prime mover means through a drive shaft 28. The variable displacement pump 14 is an axial piston swash plate type having a swash plate 29 tiltable from a minimum displacement position to a maximum displacement (shown in phantom lines). The swash plate 29 is connected by suitable linkage means 30 to a piston 31 within a cylinder 32. Spring means 33 act on the piston 31 to bias the swash plate 29 to the minimum displacement position, whereas fluid under pressure acting on the side of piston 31 in chamber 34 biases the swash plate 29 to the maximum displacement position. The piston cylinder assembly includes pressure responsive variable displacement means for varying the displacement of the pump 14. Norick discloses that pressure for varying the displacement of the variable displacement pump 14 is supplied by a fixed displacement pump 35, which draws fluid from sump 36 and supplies the variable displacement pump 14 via a pilot fluid supply line 37, which branches with a branch 38 going to the chamber 34 of piston cylinder means 31 and 32, and a branch 39. The line 37 is also in communication with the line 21 for the purpose of precharging and supplying make-up fluid for the inlet of variable displacement pump 14, as opposed to the rotary hydraulic motor 12. Norick further discloses relief valves 52 and 40, and a check valve 54 for protecting the system against overpressurization.

In the final Office Action, the rejection statement asserts that “[i]t would have been obvious . . . to include a pilot pump [35] to provide fluid across a pilot relief valve [54] and to the motor return line of Yoshimatsu (5,063,742), as taught by Norick, the purpose of the pilot pump [35] being to control displacement of the pressure source . . . .” Final Office Action at 3. Applicant respectfully disagrees with that assertion at least because the Yoshimatsu '742 reference does not disclose a hydraulic control system including a variable displacement pump. Rather, the Yoshimatsu '742 reference discloses a “hydraulic pump” and does not disclose any other hydraulic control system components that would normally be exclusively found in a hydraulic control system that incorporates a variable displacement pump such as Norick's.

In other words, the principle of operation of the Yoshimatsu '742 hydraulic control system relies on a fixed displacement pump rather than on a variable displacement pump. In contrast, the pilot pump and pilot relief valve arrangement of Norick serves the purpose of supplying make up pressure to Norick's variable displacement pump. As a result, only if the Yoshimatsu '742 system were modified to incorporate a variable displacement pump would there be any reason to incorporate Norick's pilot pump and pilot relief valve arrangement into the Yoshimatsu '742 hydraulic control system. In other words, only by changing the Yoshimatsu '742 system's principle of operation could there possibly be any reason to make the final Office Action's proposed hypothetical modification to the Yoshimatsu '742 hydraulic control system.

Therefore, since the final Office Action's proposed hypothetical modification to the Yoshimatsu '742 reference's hydraulic control system would require changing its principle of operation, there is no motivation or suggestion to make the final Office

Action's proposed hypothetical modification. As a result, Applicant's independent claims 1 and 15 are not *prima facie* obvious based on the final Office Action's proposed combination of the Yoshimatsu '742, Norick, and the Yoshimatsu '266 references.

The final Office Action also rejected claims 5, 7, 9, 10, 12-14, and 21 under 35 U.S.C. § 103(a) based on Yoshimatsu '742, Norick, and Yoshimatsu '266 along with one or more of Chung (U.S. Patent No. 5,673,605) and Krusche (U.S. Patent No. 4,665,699). Claims 5, 7, 9, 10, 12-14, and 21 depend from either allowable independent claim 1 or allowable independent claim 15. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 1 and 15 should be allowable.

### Conclusions

For at least the reasons set forth above, independent claims 1 and 15 should be allowable. Dependent claims 4, 5, 7, 9, 10, 12-14, 16, and 21 depend from one of independent claims 1 and 15. Consequently, those dependent claims should be allowable for at least the same reasons their corresponding independent claim is allowable.

Therefore, Applicant respectfully requests the reconsideration of this application, the withdrawal of the outstanding claim rejections, and the allowance of claims 1, 4, 5, 7, 9, 10, 12-16, and 21.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicant's undersigned attorney at 571-203-2739.

Applicant respectfully submits that the final Office Action contains numerous assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicant respectfully declines to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 6-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: August 6, 2004

By: 

Christopher T. Kent  
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